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EXAMINER	
RASHID, DAVID	

ART UNIT	PAPER NUMBER
2624	

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03/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/622,144	WIEDEMANN ET AL.	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *04 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

[1] All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Amendments

[2] This office action is responsive to the claim and specification amendment received on February 4, 2008. Claims 1-9 remain pending.

Specification

[3] In response to applicant's specification amendments and remarks received on February 4, 2008, the previous specification objections are withdrawn.

Claim Rejections - 35 USC § 102

[4] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[5] **Claims 1-3** and **6** are rejected under 35 U.S.C. 102(b) as being anticipated by Bonneau et al. (US 6,002,794 A).

[i] Regarding **claim 1**, Bonneau discloses a method for identifying objects (the features/objects in item 1319 of fig. 13) in an image (fig. 13, item 1301) comprising:

receiving an image (fig. 13, item 1301) with a first resolution (fig. 13, item 1307);

processing the image at a second resolution (fig. 13, items 1305) to identify an object (fig. 13, items 1311, 1317) in the image at the second resolution (the object 1311, 1317 is identified at the second resolution);

processing the image at the first resolution (fig. 13, item 1307) using the identified object (fig. 13, items 1311, 1317; identified object item 1311 at second resolution is used to identify those features of higher resolution (*e.g.* mouth) using items 1005, 1007, 1009 of fig. 10 (*i.e.* matching features across scales, including matching the identified object item 1311 at second resolution to see consistency with another object at the first resolution)) to identify another object (the mouth and hair in item 1319 of fig. 13), wherein the first resolution (fig. 13, item 1307) is higher than the second resolution (fig. 13, items 1305).

[ii] Regarding **claim 2**, Bonneau discloses the method of claim 1, further comprising:

processing the image at a third resolution (fig. 13, item 1303) to identify yet another object (fig. 13, items 1309, 1315), wherein the yet another object is employed in the identification of the object (items 1005, 1007, 1009 of fig. 10 (*refer to argument in claim 1*)) and the another object (the mouth and hair in item 1319 of fig. 13), wherein the second resolution (fig. 13, items 1305) is higher than the third resolution (fig. 13, item 1303).

[iii] Regarding **claim 3**, Bonneau discloses the method of claim 2, further comprising:

downsampling (fig. 2, items 252, 254, 256 wherein downsampling from f by a factor of 4 is equivalent to downsampling from f/2 by a factor of 2 since all downsampled images originate from same image 201 and frequency 252) the image from the first resolution (fig. 13, item 1307) to the second resolution (fig. 13, items 1305); and

downsampling (fig. 2, items 252, 254, 256 wherein downsampling from f by a factor of 4 is equivalent to downsampling from f/2 by a factor of 2 since all downsampled images

originate from same image 201 and frequency 252) the image from the second resolution (fig. 13, items 1305) to the third resolution (fig. 13, items 1303) .

[iv] Regarding **claim 6**, Bonneau discloses the method of claim 1, further comprising:

determining whether the object and the another object are desired objects based upon a context associated with the image (fig. 10, item 1009; 20:50-21:28).

Claim Rejections - 35 USC § 103

[6] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[7] **Claims 4-5** and **7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonneau et al. (US 6,002,794 A) in view of Hsu (US 5,631,970 A).

[i] Regarding **claim 4**, while Bonneau discloses wherein the processing is performed as a function of a type of facial feature in the image (fig. 13), Bonneau does not teach wherein the function is of a type of terrain.

Hsu discloses a process for identifying simple and complex objects from terrain types (fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the facial feature type of Bonneau to be terrain type as taught by Hsu "for identifying and/or extracting an object or group of objects from one or more fused images and map data.", Hsu, 1:9-10.

[ii] Regarding **claim 5**, while Bonneau discloses wherein the type of facial feature is identified using a priori information ("stored information" in 20:50-52) and a gray level co-

occurrence identification (Bonneau discloses that the image could be grey-scale (1:42-44) with high frequency thresholds below a certain grey scale level (4:12-13) which all suggest a "gray level co-occurrence identification"), Bonneau does not teach wherein the type is of a terrain type.

Hsu discloses a process for identifying simple and complex objects from terrain types (fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the type of Bonneau to be terrain type as taught by Hsu "for identifying and/or extracting an object or group of objects from one or more fused images and map data.", Hsu, 1:9-10

[iii] Regarding **claim 7**, while Bonneau discloses wherein the object is a facial feature, Bonneau does not teach wherein the object is a river.

Hsu discloses a process for identifying simple and complex objects that includes wherein the object to be identified is a river (5:57-69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the object to be identified as taught by Bonneau to be a river as taught by Hsu "for identifying and/or extracting an object or group of objects from one or more fused images and map data.", Hsu, 1:9-10.

[8] **Claims 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonneau et al. (US 6,002,794 A) in view of Eppler (US 6,084,989 A).

[i] Regarding **claim 8**, while Bonneau discloses the method of claim 2, wherein step of processing the image at the third resolution (fig. 13, item 1303) comprises:

identifying portions of the image containing a face outline (face outline in item 1301 of fig. 13);

and identifying portions of the image containing other potential face outlines (item 1303 algorithm suggests other face outlines of the same size will also be identified), wherein if portions of the image are identified which contain a face outline or other potential face outlines, identifying the face outline or other potential face outlines as the yet another object (refer to references/arguments cited in claim 2), Bonneau does not teach wherein the face outline are clouds and wherein other face outlines are bodies of water.

Eppler discloses a method for automatically determining the position of landmarks in images from satellite-based imaging systems (fig. 1) wherein clouds are eliminated by upsampling an image and thus increasing the resolution such that the clouds are no longer visible (3:10-21). In effect, upsampling to eliminate the clouds identifies the clouds in a "lowest resolution group".

Eppler also describes being a higher resolution to the image once an island or lake has been identified, thus placing a body of water in a "lowest resolution group" (13:16-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the facial feature and other facial features of Bonneau to include clouds and bodies and water respectively as taught by Eppler, and wherein if portions of the image are identified which contain clouds or bodies of water, it would have been obvious to one of ordinary skill in the art at the time the invention was made for identifying the clouds or bodies of water as the "lowest resolution group" as taught by Eppler to be the yet another object as taught by Bonneau so that to "provide[s] for a system and method that processes a digitized image generated by a satellite-based imaging system and generates error values indicative of

the misregistration between the actual position of the landmarks in the digitized images and their desired position. The error values are then used to adjust the optical line of sight of the imaging system to produce optimum registration.", Eppler, 1:66-2:5 as well as "the landmark mask and the upsampled image patch containing the landmark are processed using an image enhancement algorithm that increases the contrast and robustness of the images by converting pixel gray scale values into likelihood ratios, that is whether the each pixel is part of the landmark or part of the land or water surrounding the landmark. Using the image enhancement algorithm, the computed likelihood ratios along with the landmark mask are processed by the matching algorithms to generate the offset errors and match figure of merit.", Eppler, 2:40-49.

[ii] Regarding **claim 9**, while Bonneau discloses the method of claim 8, wherein the identified portions of the image containing face outlines are employed in the identification of objects in the image at the second resolution and other objects in the image at the first resolution (refer to references/arguments cited in claim 2), Bonneau does not teach wherein the face outline are clouds and wherein other face outlines are bodies of water.

Eppler discloses a method for automatically determining the position of landmarks in images from satellite-based imaging systems (fig. 1) wherein clouds are eliminated by upsampling an image and thus increasing the resolution such that the clouds are no longer visible (3:10-21). In effect, upsampling to eliminate the clouds identifies the clouds in a "lowest resolution group".

Eppler also describes being a higher resolution to the image once an island or lake has been identified, thus placing a body of water in a "lowest resolution group" (13:16-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the facial feature and other facial features of Bonneau to include clouds and

bodies and water respectively as taught by Eppler, and wherein if portions of the image are identified which contain clouds or bodies of water, it would have been obvious to one of ordinary skill in the art at the time the invention was made for identifying the clouds or bodies of water as the "lowest resolution group" as taught by Eppler to be the yet another object as taught by Bonneau so that to "provide[s] for a system and method that processes a digitized image generated by a satellite-based imaging system and generates error values indicative of the misregistration between the actual position of the landmarks in the digitized images and their desired position. The error values are then used to adjust the optical line of sight of the imaging system to produce optimum registration.", Eppler, 1:66-2:5 as well as "the landmark mask and the upsampled image patch containing the landmark are processed using an image enhancement algorithm that increases the contrast and robustness of the images by converting pixel gray scale values into likelihood ratios, that is whether the each pixel is part of the landmark or part of the land or water surrounding the landmark. Using the image enhancement algorithm, the computed likelihood ratios along with the landmark mask are processed by the matching algorithms to generate the offset errors and match figure of merit.", Eppler, 2:40-49.

Response to Arguments

[9] Applicant's arguments filed on February 4, 2008 with respect to independent **claim 1-9** have been respectfully and fully considered, but they are not found persuasive.

[10] **Summary of Remarks** regarding **claim 1:**

[i] Applicant argues Bonneau does not disclose or suggest this feature of claim 1. Bonneau discloses an encoding technique for processing an original unencoded signal that is to be encoded and compressed. With reference to Figure 2, Bonneau discloses that an original unencoded image 201 is subjected to wavelet processing at scale one 270 to produce a low

frequency scale one image 203 and a high frequency scale one image 205. Accordingly, the original image 201 is first processed at scale one 270 (see Column 10, lines 18-42). (R. at 8, February 4, 2008.)

[ii] Furthermore, the Office's reliance on Figure 5 of Bonneau is not supportable. Figure 5 of Bonneau illustrates that after the processing illustrated in Figure 2 is completed to sequentially reduce the frequency of the original image 201, domain blocks 501 of scale three 515 are matched to the smaller range blocks of the next lowest scale, i.e., scale two 517. Domain block 505 of scale two 517 is matched to the smaller range blocks 507 of scale one 519 (see Column 13, line 64 to Column 14, line 3). However, the domain blocks and range blocks are calculated after the frequency of the original image 201 has been sequentially reduced through the ordered wavelet processing of scale 1, scale 2 and then scale 3. In other words, the sequentially reduced objects obtained in the high to low scale wavelet processing illustrated in Figure 2 are used for fractal encoding, not for identifying an object at a second resolution and then using the identified object to obtain another object at a first resolution, which is higher than the second resolution, as recited in claim 1. (R. at 8.)

[11] **Examiner's Response** regarding **claim 1:**

However, Bonneau in light of using a better interpretation in fig. 13 does in fact anticipate claim 1. Bonneau discloses a method for identifying objects (the features/objects in item 1319 of fig. 13) in an image (fig. 13, item 1301) comprising: receiving an image (fig. 13, item 1301) with a first resolution (fig. 13, item 1307); processing the image at a second resolution (fig. 13, items 1305) to identify an object (fig. 13, items 1311, 1317) in the image at the second resolution (the object 1311, 1317 is identified at the second resolution); processing the image at the first resolution (fig. 13, item 1307) using the identified object (fig. 13, items

1311, 1317; identified object item 1311 at second resolution is used to identify those features of higher resolution (*e.g.* mouth) using items 1005, 1007, 1009 of fig. 10 (*i.e.* matching features across scales, including matching the identified object item 1311 at second resolution to see consistency with another object at the first resolution)) to identify another object (the mouth and hair in item 1319 of fig. 13), wherein the first resolution (fig. 13, item 1307) is higher than the second resolution (fig. 13, items 1305).

In further detail, the second resolution (fig. 13, items 1305) identifies the identified object (fig. 13, items 1311, 1317). Object 1311 is the "pixilated" representation of object 1317. Objects (fig. 13, items 1313, 1319) at the first resolution (fig. 13, items 1307) are identified using the second AND third resolutions (refer to arrow between all three elements in fig. 13; items 1005, 1007, 1009). The objects at the first resolution are dependent on the second and third resolutions if the algorithm requires matching between all three resolutions to distinguish and find objects that can only be identified at the first resolution.

[11] **Summary of Remarks** regarding **claims 4-5** and **7-9:**

Applicant argues Hsu and Eppler each fail to disclose or suggest the added feature of claim 1.

[12] **Examiner's Response** regarding **claims 4-5** and **7-9:**

However, **s. [11]** shows that the added feature of claim 1 is anticipated by Bonneau, thus claims 4-5 and 7-9 are not allowable by their dependency.

Conclusion

[13] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 4667190 A; US 4835532 A; US 5065447 A; US 5500904 A; US 5555555 A; US 5612901 A; US 5742710 A; US 5870502 A; US 5946417 A; US 5978520 A; US 6310967 B1.

[14] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

[15] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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